Operating method of membrane separation apparatus for water, involves supplying biological purifying waste treatment liquid mixed with gas to membrane separation unit, clean film elements of membrane separation unit.

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    (DAIL) DAICEL CHEM IND LTD
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AB
    NOVELTY - Initially the filtering operation is stopped, and a circulating
    pump (3) is made to mix gas with biological treatment liquid of a
    bioreaction tank (1) and is supplied to membrane separation
    unit, to clean film elements (6) of membrane separation unit.
    The gas bubbles are removed from liquid and the liquid is returned to
    bioreaction tank. The cleaning operation of film elements is performed
    intermittently.
          DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for
    membrane separation apparatus.
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USE - For purifying domestic, industrial waste water, human waste

ADVANTAGE - The adherence of sludge to film element is reduced by contacting gas bubbles with film elements, hence filtration efficiency of film element is enhanced. Excess aeration is prevented, since gas bubbles are removed from liquid before being returned to bioreaction tank.

DESCRIPTION OF DRAWING(S) - The figure shows the outline diagram of membrane separation apparatus. (Drawing includes non-English language

Bioreaction tank 1 Circulating pump 3 Film elements 6 Dwg.1/1